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BIOFUELS AND THE EUROPEAN UNION

The European Union (EU) is the world leader in biodiesel production. During the last decade, production of biodiesel in the EU has increased significantly due to legislative initiatives, tax incentives and a desire for decreased dependency on foreign sources of energy. The growing demand for vegetable oil for biodiesel production in the EU has significantly increased imports of canola oil from Canada to about CAN$205 million (M) in 2005 from CAN$14.5M in 2003. However, consumer demand for biodiesel has recently slowed, as several key countries including the United Kingdom, Italy and Spain have not fully implemented past promises to raise biofuel use, and Germany has removed a key tax break. Short-term growth in the industry may be constrained by excess capacity, but the long-term prospects remain strong as a result of the new energy and climate change policy which includes a 10% binding minimum for biofuel share of transport fuel by 2020. Further information on the biofuel sector in the EU can be found in the *Bi-weekly Bulletin* Volume 20, Number 7, *Vegetable Oils: Situation and Outlook*, and Volume 19, Number 15, *Biodiesel*.

EU Legislation

In the EU, diesel use is much more prevalent than gasoline use, unlike North America. EU capacity of biodiesel has increased significantly to 6.1 million tonnes (Mt), (6.8 billion litres), in 2006, from 3.2 Mt in 2005, 1.9 Mt in 2004 and 0.8 Mt in the mid-1990s. Germany, Italy and France are the largest producers. Rapeseed is the major feedstock and about 80% of the biodiesel is produced from rapeseed oil. One tonne of rapeseed, when processed, yields about 0.4 t of vegetable oil which is then processed into about 400 litres (L) of biodiesel, i.e. 1 Mt of rapeseed can be processed into about 0.4 Mt (400 million litres) of biodiesel.

The EU's shift towards biofuels has been motivated by the need to improve air quality by reducing carbon dioxide emissions, high oil prices, a desire to reduce its dependence on imports of petroleum from Russia and the Mid-East, reforms to the EU Common Agricultural Policy (CAP) and budgetary considerations. In addition, there is a priority to reduce the greenhouse gas (GHG) emissions and meet Kyoto obligations and general support for rural development

The *EU Biofuels Directive of 2003* set non-binding targets to replace 2% of transport fuels with biofuels by 2005 and 5.75% for 2010. The 2005 target was not achieved as the average share of biofuels reached only about 1% among member states. Germany and Sweden

BIODIESEL : PRODUCTION CAPACITY BY EU MEMBER STATES

	2003	2004	2005	2006
	thousand tonnes			
Germany	715	1,035	1,669	2,681
Italy	273	320	396	857
France	357	348	492	775
UK	9	9	51	445
Spain	6	13	73	224
Czech Rep.		60	133	203
Poland			100	150
Portugal			1	146
Austria	32	57	85	134
Slovakia		15	78	89
Belgium			1	85
Denmark	40	70	71	81
Greece			3	75
Sweden	1	1	1	52
Estonia			7	20
Slovenia			8	17
Hungary				12
Lithuania		5	7	10
Latvia			5	8
Malta			2	3
Cyprus			1	2
TOTAL	**1,433**	**1,933**	**3,184**	**6,069**
Increase (%)		35%	65%	90%

Source: European Biodiesel Board

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were the only states where biofuels made up more than 1% of transport fuels. In Germany, biodiesel has 6% of the diesel market and biofuels as a whole have 3.75% of the market. In Sweden, ethanol has 6% of the petroleum market and biofuels, as a whole, have 3% of the market.

In 2007, the EU Commission released the *Biofuels Progress Report*, which focused on the progress made by member states towards the objectives of the *Directive*. The report concluded that the target for 2010 was not likely to be achieved. Production was estimated to reach between 2.4% and 4.2% as opposed to the 5.75% target. In order to increase the likelihood of attaining the goals of the 2003 Directive, the *Report* proposed a 10% binding minimum standard for the share of biofuels use in overall transport consumption by 2020.

Member State Implementation – Tax Incentives & Obligations

Since 2003, member states have been allowed to grant tax reductions or exemptions in favour of biofuels, under certain conditions. In Germany, biofuels were granted a significant tax relief in 2004 which facilitated the increase of sales of biodiesel in Germany to 3.2 Mt in 2006, from 1.2 Mt in 2004. In 2005, this tax exemption was extended to blended biofuels until 2009. It amounted to €0.47 per litre (/L) (CAN$0.66/L) for biodiesel and €0.65/L (CAN$0.91/L) for ethanol.

However, the EU determined that German biofuels were being over-subsidized and as a result required Germany to reduce this tax relief. In response, as of January 2007, Germany imposed new mandatory blending requirements for biofuels (4.4% energy content for biodiesel and 2% energy content for ethanol) and at the same time withdrew tax relief for this mandatory portion. Taxes on these amounts are now €0.09/L as of 2007, and this will increase to €0.45/L by 2012. Second generation biofuels will remain tax exempt until 2015. Biofuel content above these mandatory levels will continue to benefit from reduced taxation, but on a declining basis, until 2012. Biofuel mandates are also used to promote biofuels, and these are regulatory sales obligations imposed on transport fuel suppliers that require them to provide biofuels as a fixed proportion of their total aggregate fuel sales. They are designed to ensure that a minimum volume of biofuels is supplied to the market and encourage volume certainty. France, Austria and Slovenia have established mandates of 2%, 2.5% and 1.2%, by energy content, respectively. The Netherlands is expected to introduce a 2% mandate in 2007.

Cost-Effectiveness

Even using the most modern technologies, the cost of EU-produced biofuels makes it difficult to compete with fossil fuels, at least in the short to medium-term.

Energy

The EU transport sector is currently 98% reliant on petroleum indicating a significant need to diversify. The volatility of crude oil prices and concern over the reliability of imports of Russian gas has underlined the importance of increasing self-sufficiency. Liquid biofuels are currently one of the few possible substitutes for petroleum based transport fuel that is available on a significant scale. Europe also needs a coordinated energy policy to diversify and meet biofuel targets.

In January 2007 the EU set a policy to achieve a 20% reduction of greenhouse gas emissions by 2020 compared to 1990 levels, improve energy efficiency 20% by 2020 and source 20% of energy from renewable fuels by 2020.

Progress towards the target of 5.75% is being impeded by the current blending limits of 5% by volume for ethanol and biodiesel into fossil fuels and by the lack of infrastructure to blend, store and deliver biofuels.

NATIONAL INDICATIVE TARGETS FOR THE SHARE OF BIOFUELS, 2006-2010

	2006	2007	2008	2009	2010
	percent				
Austria	2.50	4.30	5.75	5.75	5.75
Belgium	2.75	3.50	4.25	5.00	5.75
Cyprus					
Czech Republic	1.78	1.63	2.45	2.71	3.27
Denmark	0.10				
Estonia	2.00				5.75
Finland					
France			5.75		7.00
Germany	2.00				5.75
Greece	2.50	3.00	4.00	5.00	5.75
Hungary					5.75
Ireland	1.14	1.75	2.24		
Italy	2.00	2.00	3.00	4.00	5.00
Latvia	2.75	3.5	4.25	5.00	5.75
Lithuania					5.75
Luxembourg	2.75				5.75
Malta					
The Netherlands	2.00	2.00			5.75
Poland	1.50	2.30	2.80	2.90	5.75
Portugal	2.00	3.00	5.75	5.75	5.75
Slovakia	2.50	3.20	4.00	4.90	5.75
Slovenia	1.20	2.00	3.00	4.00	5.00
Spain					
Sweden					5.75
UK			2.00	2.80	3.50
EU					**5.75**

Source: 2006 Biofuels Progress Report

Funding for Biofuels Research

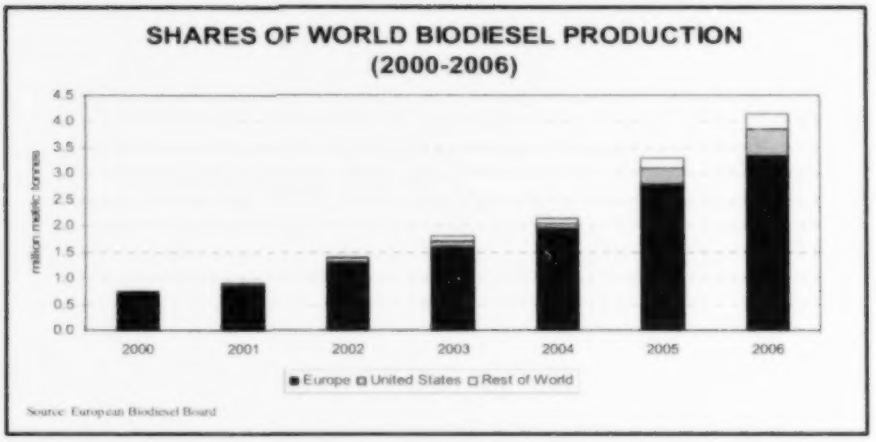
In the EU, governments have often supported the building of infrastructure to spur development. An example is Germany which provided 50% subsidies for the construction of biofuel factories.

The EU is also now offering major financial support for biofuels research through the Seventh Framework Programme for Research and Technological Development (FP7) which runs from 2007-2013.

Agriculture

The main issues for agriculture relate to the CAP reform, the ability of the EU to meet demand for raw biomass through domestic cultivation, and the impact caused by the shift to biofuels on global food markets.

As part of the CAP reform in 2003, special aid was provided for energy crops on land that normally grows grain for food. Crops grown for the production of biofuels on this land are



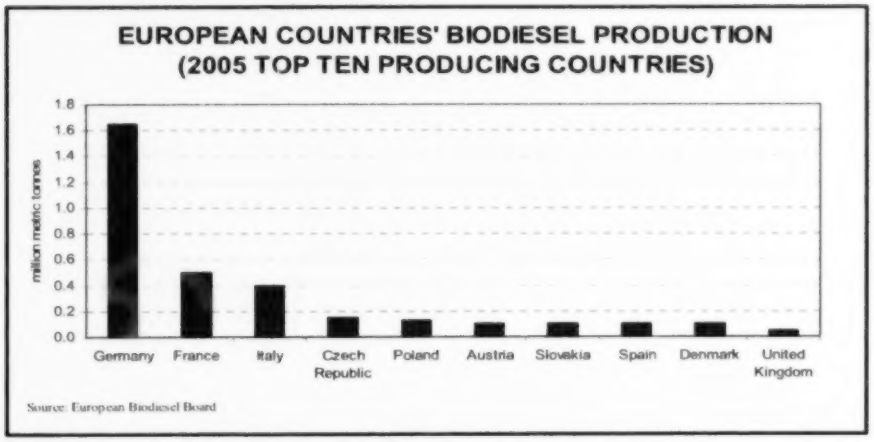
eligible for a premium of €45 per hectare (/ha), for a maximum of 1.5 million hectares (Mha). In 2005, an estimated 0.5 Mha received the energy crop payment. The CAP reform scheme was extended in 2006 to new member states and the total area expanded to 2.0 Mha. In addition, farmers are allowed to plant oilseeds on the set-aside land (and still receive compensation payment) as long as it is contracted solely for the production of biodiesel or other industrial products and not sold into either the food or the feed market. The reform of CAP is seen as a positive development for the agricultural industry, given the pressure to dismantle traditional forms of support.

CAP reform has boosted production of biomass, primarily rapeseed and sugar beet cultivation. However, for the EU to reach a 10% target for biofuels by 2020 there is likely to be an increased reliance on imports. The EU recently indicated it was willing to ramp up imports of biofuels from countries such as Brazil which currently faces EU import tariffs of about 70%.

The European Biodiesel Board (EBB) asserts that the EU could meet 80% of the demand through local cultivation, and just 20% from imports. The EBB contends that to meet the 10% target, the EU biodiesel industry would have to increase production by 15% each year.

Total EU rapeseed production was 15.3 Mt in 2006-2007, similar to the previous two years. About 65% is used for biodiesel production. Germany and France, the top producers of rapeseed, produce 61% of the EU crop. Rapeseed production comprises 75% of total oilseed production in the EU, followed by sunflower seed (20%), soybeans (4%), and cottonseed (3%).

The growth of biomass cultivation is partially a result of strong support from the agricultural lobby, which sees biofuels as a means of easing economic pressures and safeguarding jobs within the agricultural sector. However, the higher commodity prices will be partly offset by higher input costs related to fertilizer, land, etc. Increasingly the grains and oilseed markets have become segmented into markets for human food, livestock feed and fuel. Due to the relatively recent and very rapid growth of the 'fuel' market, the linkages between the markets in terms of demand, supply or price are not clearly defined.



Trade

Analysts and industry officials expect the EU to remain protective of domestic industries and limit imports.

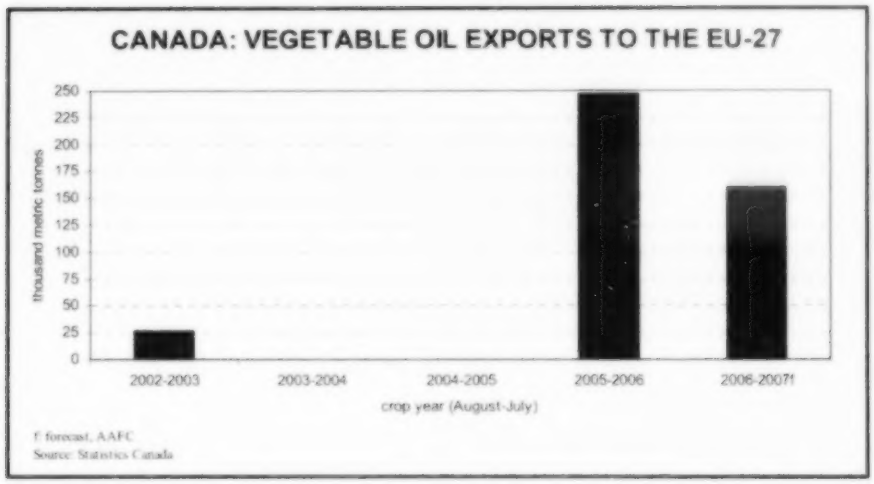
Currently, the EU maintains significant import protection on ethanol representing 40-100% of the price. However, ethanol does enter duty free, from Least Developed countries (LDC), and the ACP countries, Africa, Caribbean and Pacific, and other developing countries. Import duties on other biofuels such as biodiesel and vegetable oils are currently between 0-5%.

Tariff classification for biofuels under the Harmonized System (HS) used by the World Trade Organisation (WTO) is currently inconsistent and in need of resolution. Currently, ethanol falls under HS Chapter 22 classification as an agricultural good and there is no distinction made between non-fuel and fuel uses. Biodiesel on the other hand falls under HS Chapter 38 classification as an industrial good. The European Commission, along with other WTO members, is currently looking into the advantages, disadvantages and legal implications of having separate customs codes for biofuels.

The linkage between subsidization of the feedstock used for biofuel production is another area where clarification is needed under WTO rules. Although subsidies have been crucial to the economic viability of the biofuels industry, trade retaliation or action is unlikely because trade in biofuels has been relatively modest and most countries involved have used subsidies of one form or another. This could change as more countries enter the biofuels sector and worldwide trade increases.

Excess Capacity

The current capacity of the biodiesel industry in the EU is about 6 Mt. However, it has been operating at about 50% capacity utilization largely because of the loss of subsidy and the imposition of biofuel taxes. This has cut its price advantage over fossil diesel. The



demand for rapeseed has fallen correspondingly. The government will impose a second round of tax increases on biodiesel in January 2008, which will cause further cuts in biodiesel production and the demand for rapeseed. There are concerns that some biodiesel refineries would have to close because of the second round of tax rises. The decrease in demand for rapeseed is expected to pressure rapeseed prices lower and increase carry-out stocks of rapeseed in Germany for 2006-2007.

The new binding 10% biofuel target, discussed below, will increase the demand for biodiesel, but over the near-term there may continue to be unused production capacity until the mandate comes into force.

Moving towards 2020

By setting a new 10% minimum for biofuel share of transport fuel by 2020 the European Commission is sending a clear signal to member states that they must get onboard with biofuel growth and development even though they are now economically uncompetitive with fossil fuels.

The motivation behind this new binding target is unequivocal: the potential of biofuels to meet sustainability goals, improve EU energy security, and offer new opportunities for agricultural areas. The binding nature of the target is also thought to drive economic growth by signalling to investors and industry participants that a biofuels market will exist and continue to grow. Biodiesel and ethanol are seen as a necessary stepping stone towards more promising second generation biofuels produced from forestry and agricultural residues.

For the EU to reach the 5.75% biofuel share target by 2010 or 10% by 2020 a sustained cooperative effort between governments, farmers, fuel producers, car companies and oil companies will be required, supported by long-term agreements, incentives, subsidies and mandates.

Over the short to medium-term, it is likely that the industry will require a substantial amount of continued financial support because the costs of production and marketing biofuel are high relative to fossil fuels. This will require the EU to develop a policy framework and member states to provide appropriate incentives to encourage further investment in production facilities and cultivation of biomass.

Farmers and the agricultural lobby have already seized on this shift to biofuels as an opportunity to support income. However, financial subsidies on the scale currently necessary to achieve the 5.75% biofuels target may not be sustainable either politically or economically. Biofuels will need to become more competitive on cost.

High demand for biodiesel has driven up the price of canola/rapeseed in the EU, and increased imports of Canadian canola oil. EU-25 imports of canola oil from Canada in 2006, worth CAN$204M, are forecast at 160,000 t, worth about CAN$135M, significantly lower than 2005-2006 due to lower demand for biodiesel. This compares to 22,000 t in 2003 worth CAN$14.5M. Canola oil destined for biodiesel is not subject to the EU's restrictions on genetically modified organism (GM) crops. If the EU removes its de facto moratorium on the approval of GM products, this will create opportunities for the export of Canadian canola seed directly to the EU. However, increased rapeseed production is expected from Ukraine and other former Soviet countries which could dampen demand from Canada. Also, China may be a more attractive destination than the EU for oil and seed over the next year and possibly beyond.

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